



*High resolution, book format.*

Deconstruction

Arnold & Son

Globetrotter

World time

by

# THE NAKED WATCHMAKER

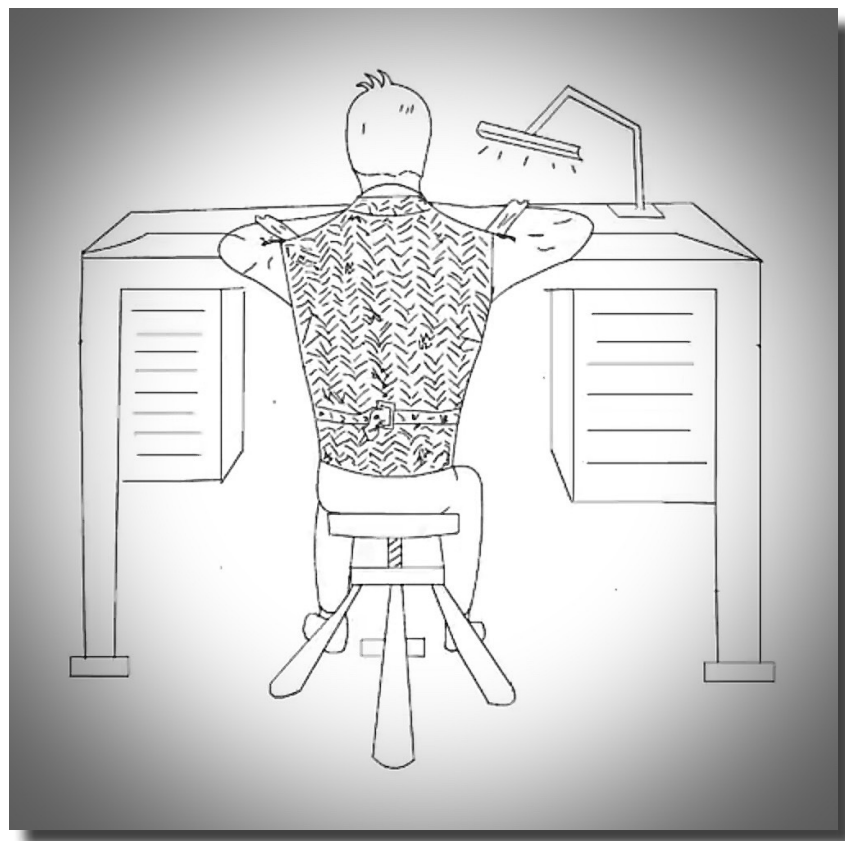
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Edition A&S1a

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The Naked Watchmaker.

## *John Arnold*

*Born in Cornwall, England in 1736 and died 11 August 1799. His father was a watchmaker and his uncle a gunsmith, he left England for the Netherlands at the age of 19 after completing his apprenticeship in watchmaking. He established himself as a watchmaker of repute in London's Strand by his twenties.*

*Arnold & Son was recreated in 1995, they are today a Swiss company based in La Chaux de Fonds, Switzerland producing mechanical watches, designs, technologies and prices philosophy influenced from the original direction of the company.*



# Globetrotter



A world time wristwatch with an earth domed upper hemisphere viewed, centred on the North Pole.





The crown has three-positions. The first is used to manually wind the movement, the second position sets the local time (hour hand) in one-hour increments, and the final position is used to set the hour and minute hands and the world-time. Both the main time display, as well as the world-time function, can be adjusted forwards and backwards.



The case is stainless steel, diameter 45 mm, cambered sapphire with anti-reflective coating on both sides. Total thickness: 17.2 mm between sapphires, water resistant to 30 metres.





The domed hemisphere is machined from a round piece of brass. The different textures of the oceans and continents are brought out by chemical etching using a mask to protect the higher surfaces, followed by polishing the upper surfaces.



The mountainous areas are then sandblasted to create a sense of visual depth, then the oceans are lacquered by hand with different blue tones. The entire world-time disk is then treated with a layer of clear lacquer.

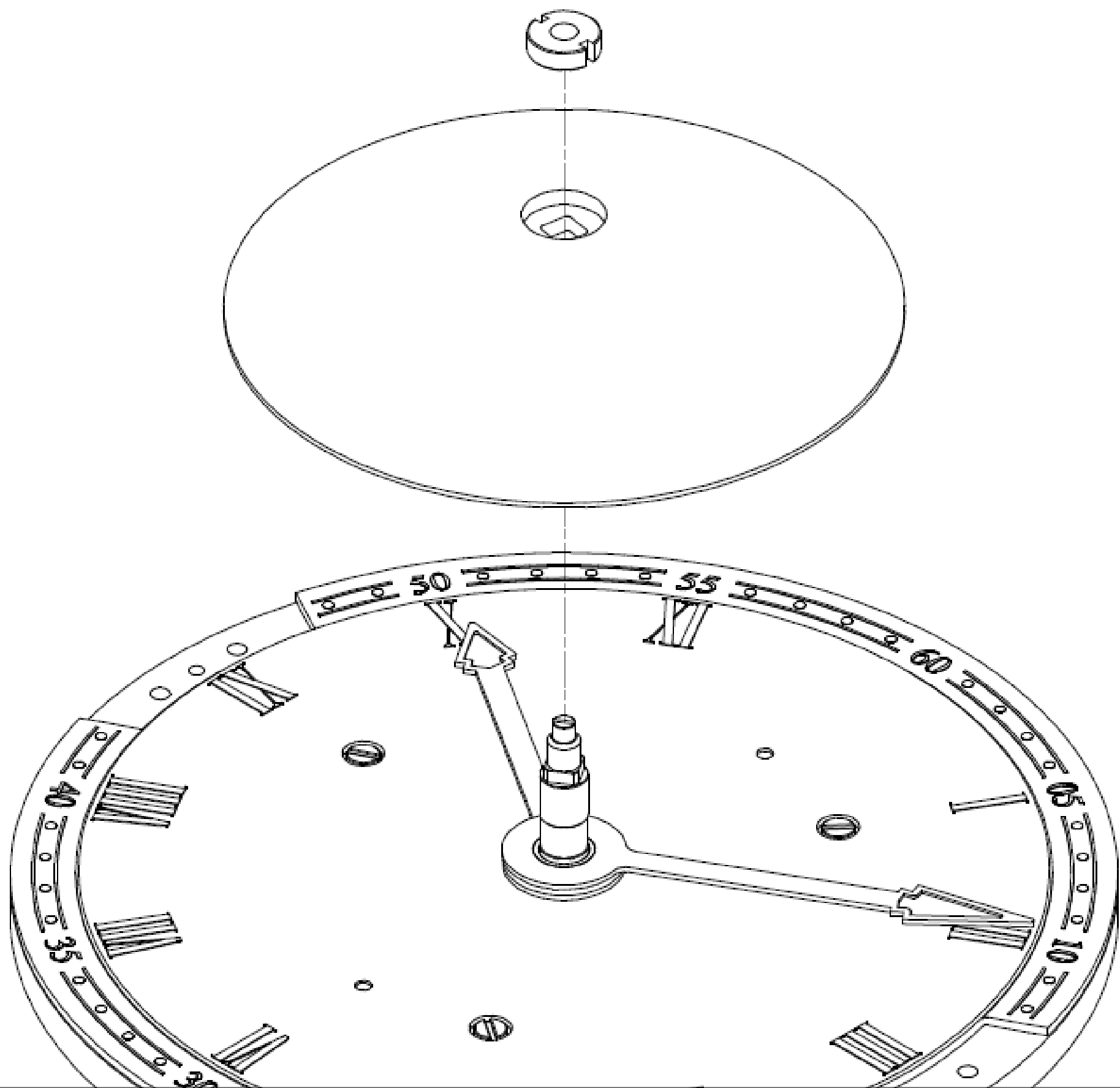






Calibre A&S6022, automatic, 29 jewels, diameter 39mm, thickness 6.55 mm without earth and bridge, 14.00 mm with earth and bridge, power reserve 45 h, 28'800 vibrations/hour.





The hemisphere below has been personalised for a particular order for a client in Turkey, (the reason for the highlighted land mass in red).

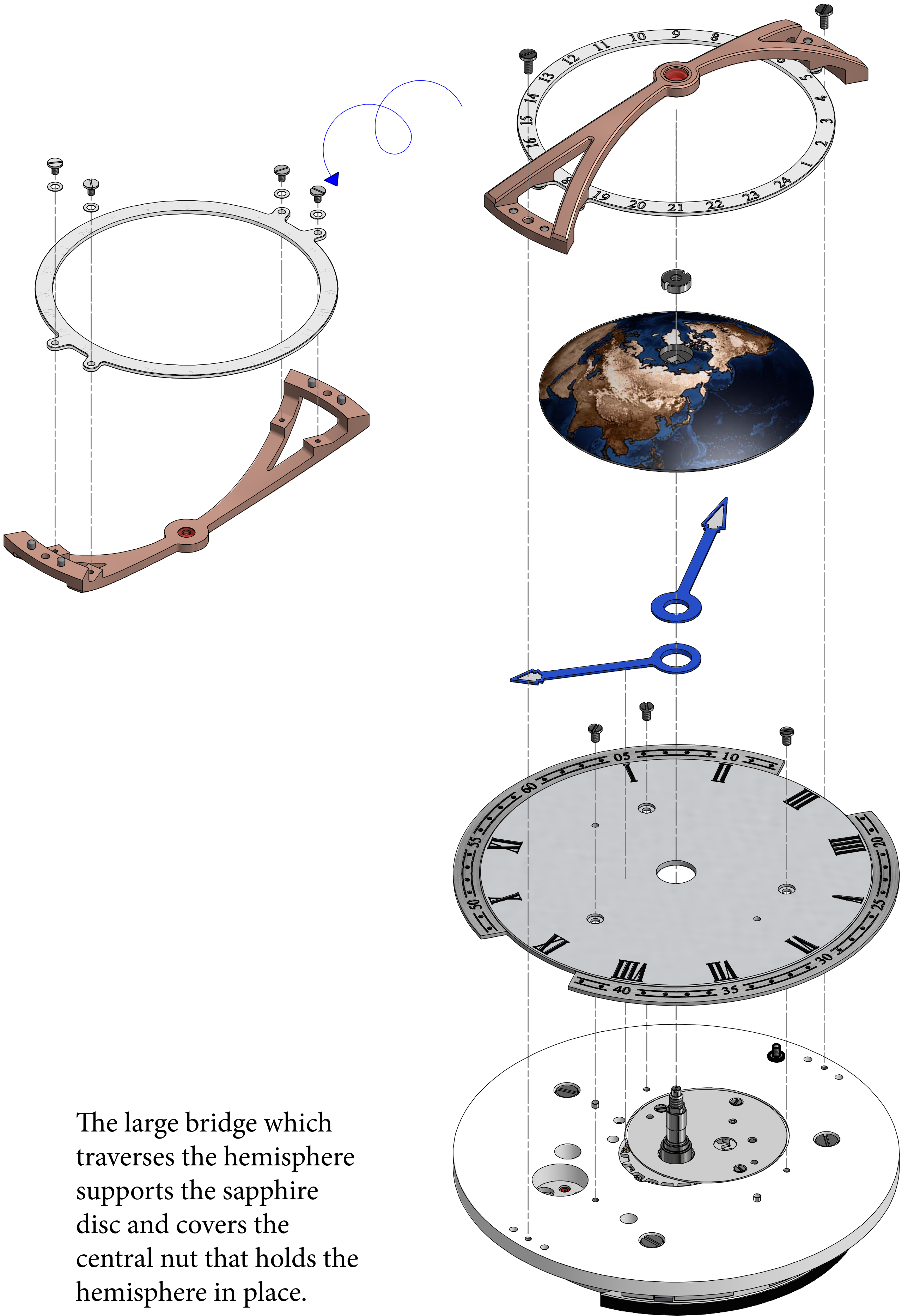






The dial is CNC machined from brass, then lightly sandblasted in the centre, and circular-grained around the minute track before being silver plated. Then the dial is printed with the black details. The dial is held onto the movement by three screws and two steady pins.





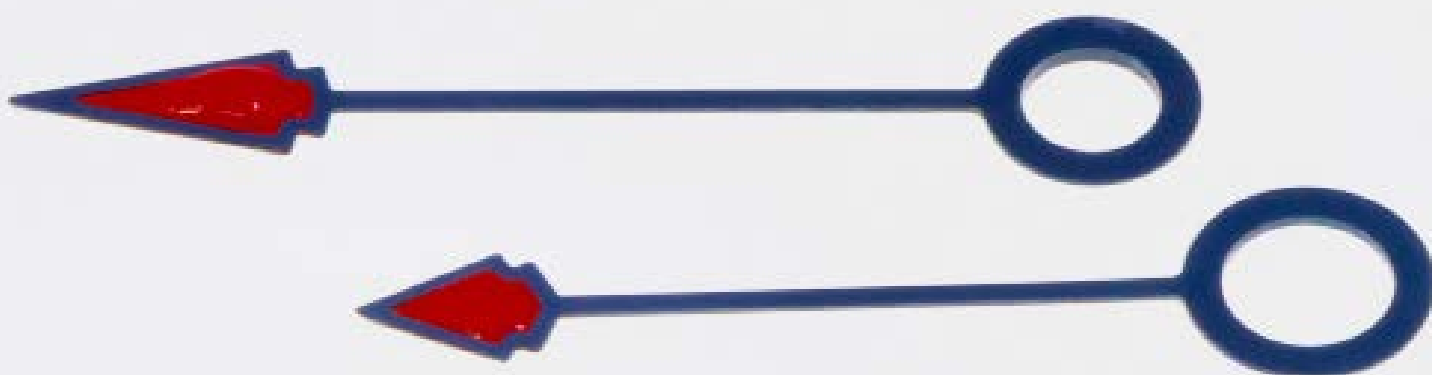
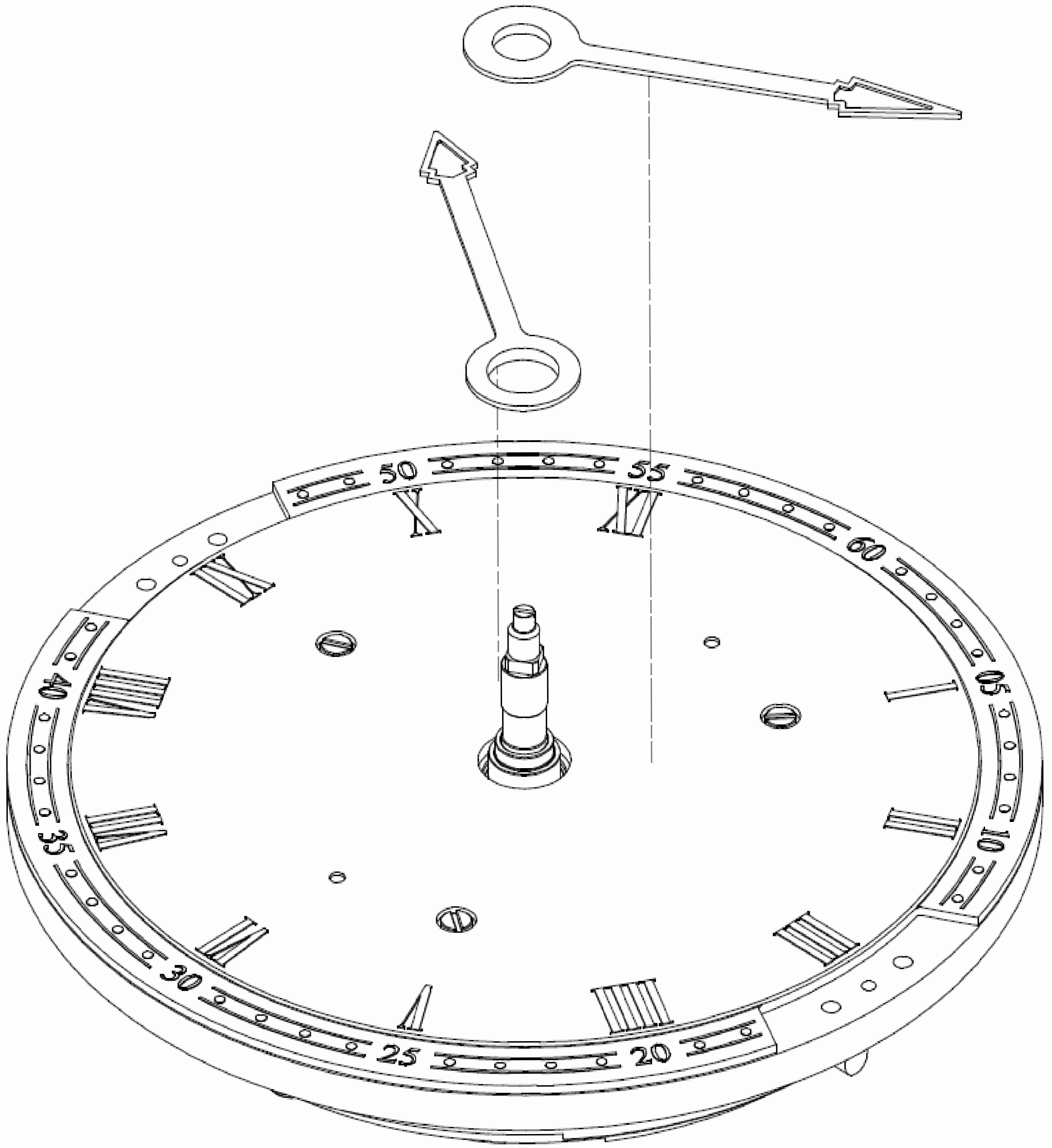
The large bridge which traverses the hemisphere supports the sapphire disc and covers the central nut that holds the hemisphere in place.



Transparent and  
metallized 24-hour  
sapphire.



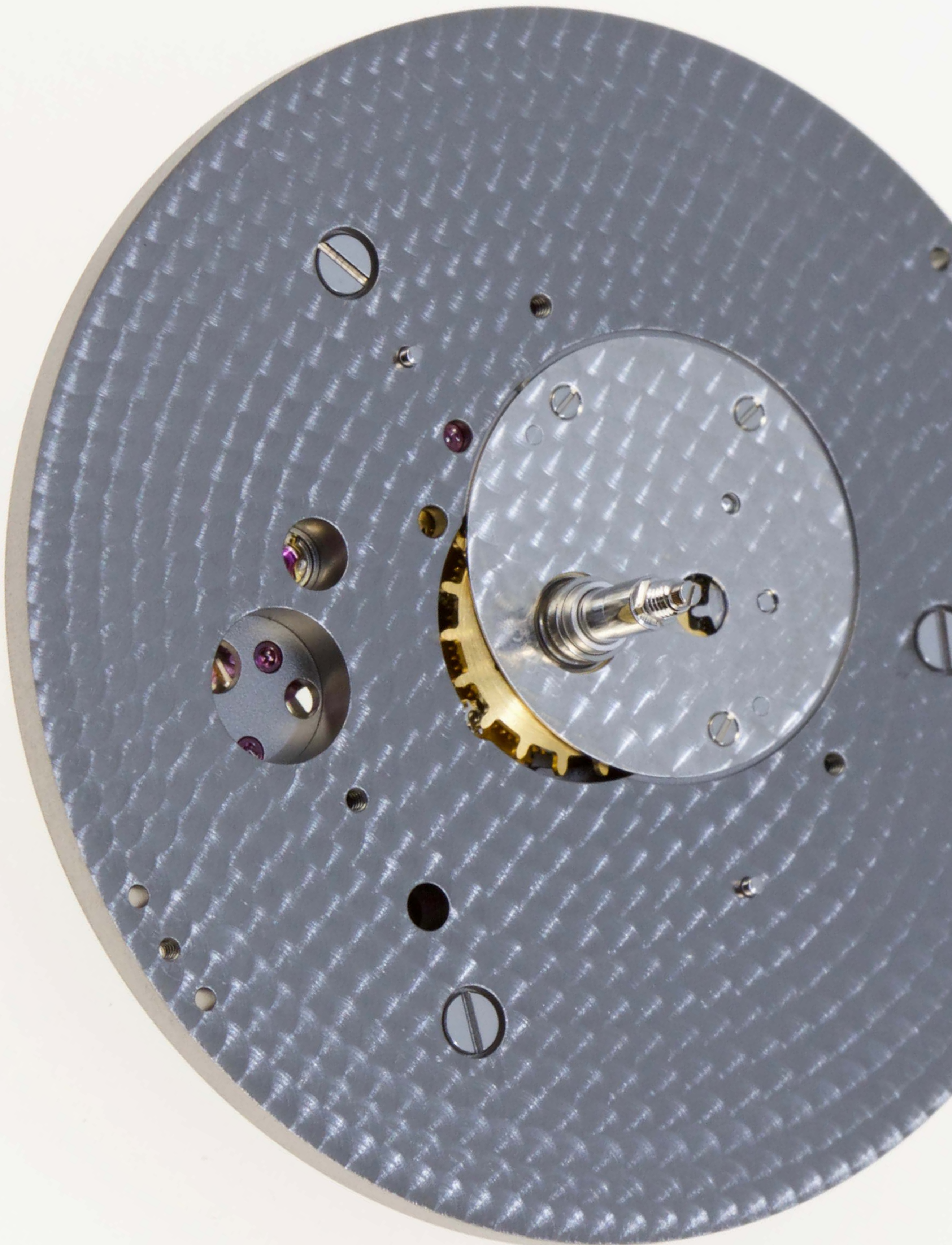




The hands are made from hardened, blued steel and the tips are lacquered manually, remaining translucent to be able to view the hours they cross.



Dial side of the movement showing the large plate which supports the dial and hemisphere.

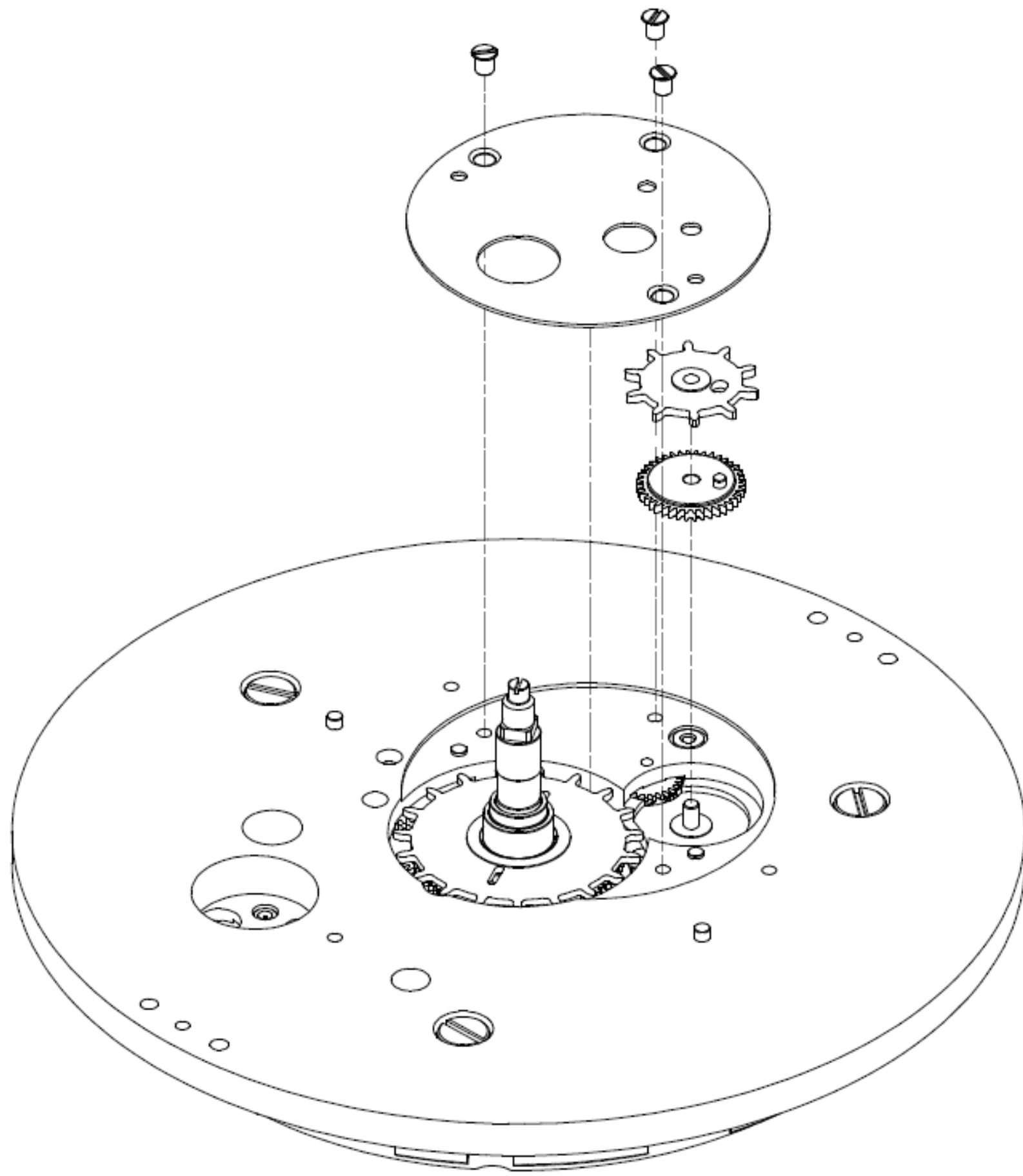




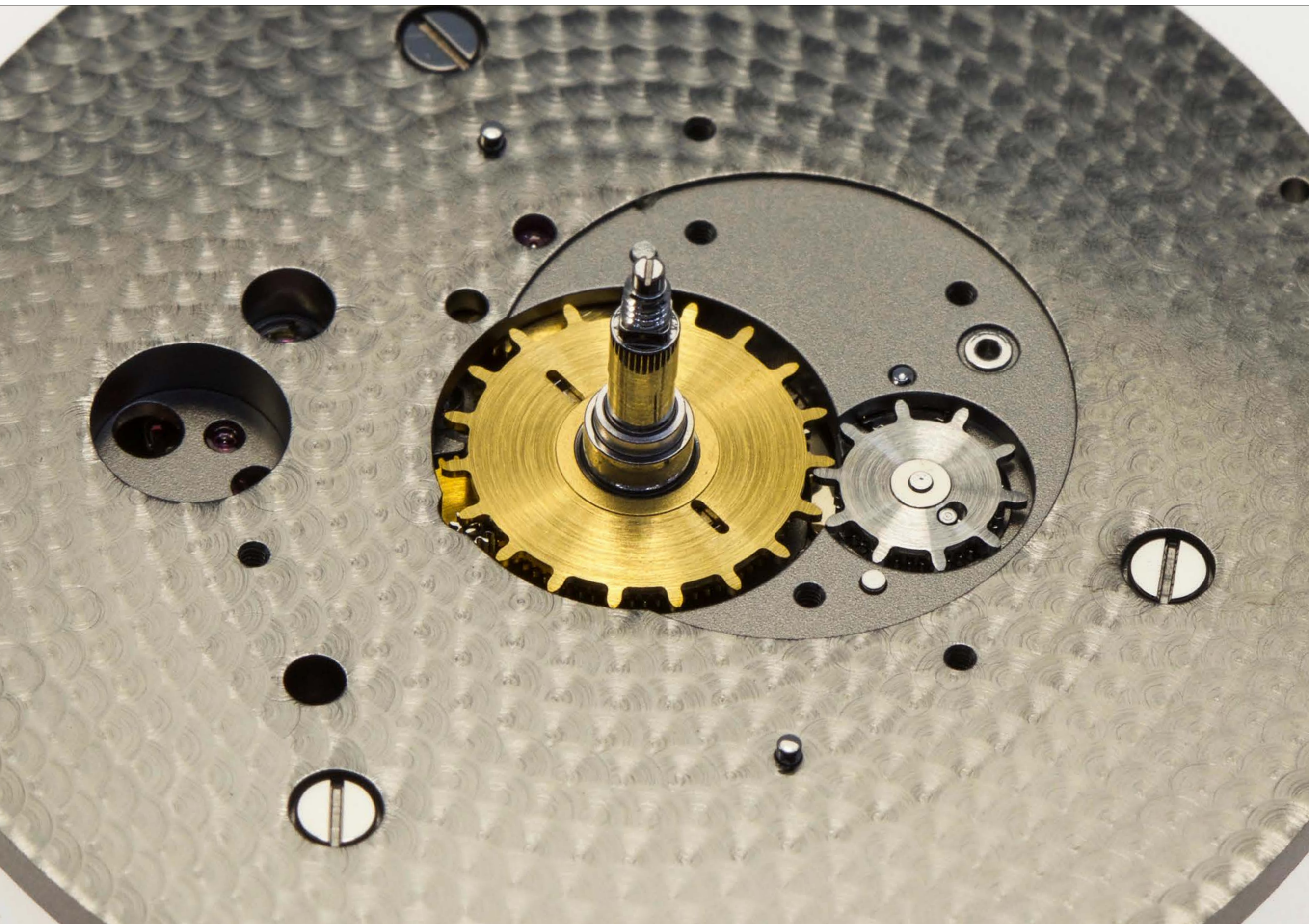
The tall central assembly which carries the minute and hour hands at the bottom, underneath the hemisphere. The domed hemisphere is then held onto the square section at the top and secured with a nut.





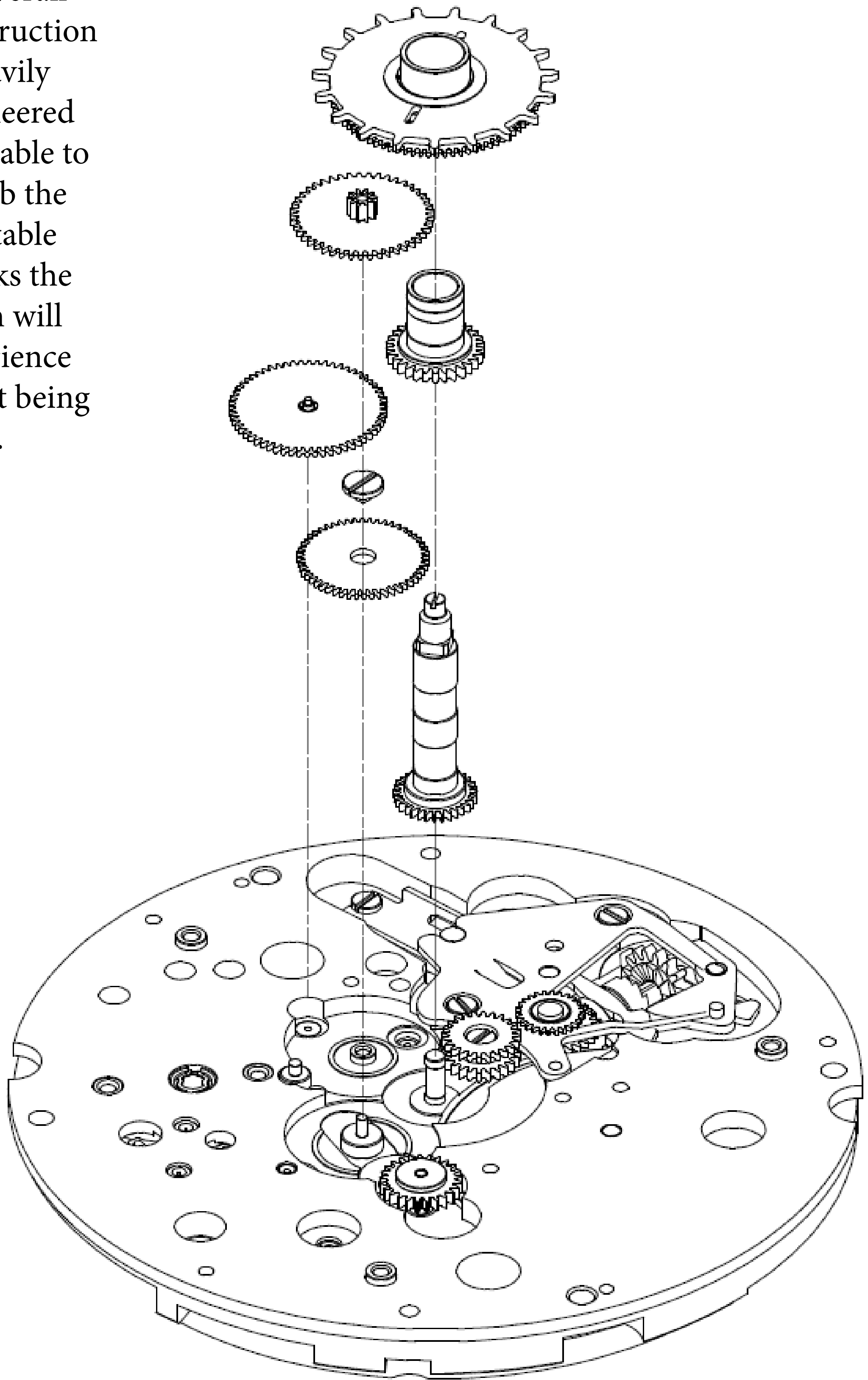


The world time assembly.





Given the weight of the hemisphere, the overall construction is heavily engineered to be able to absorb the inevitable knocks the watch will experience whilst being worn.







The gears for the world time mechanism shown through the dial supporting plate.





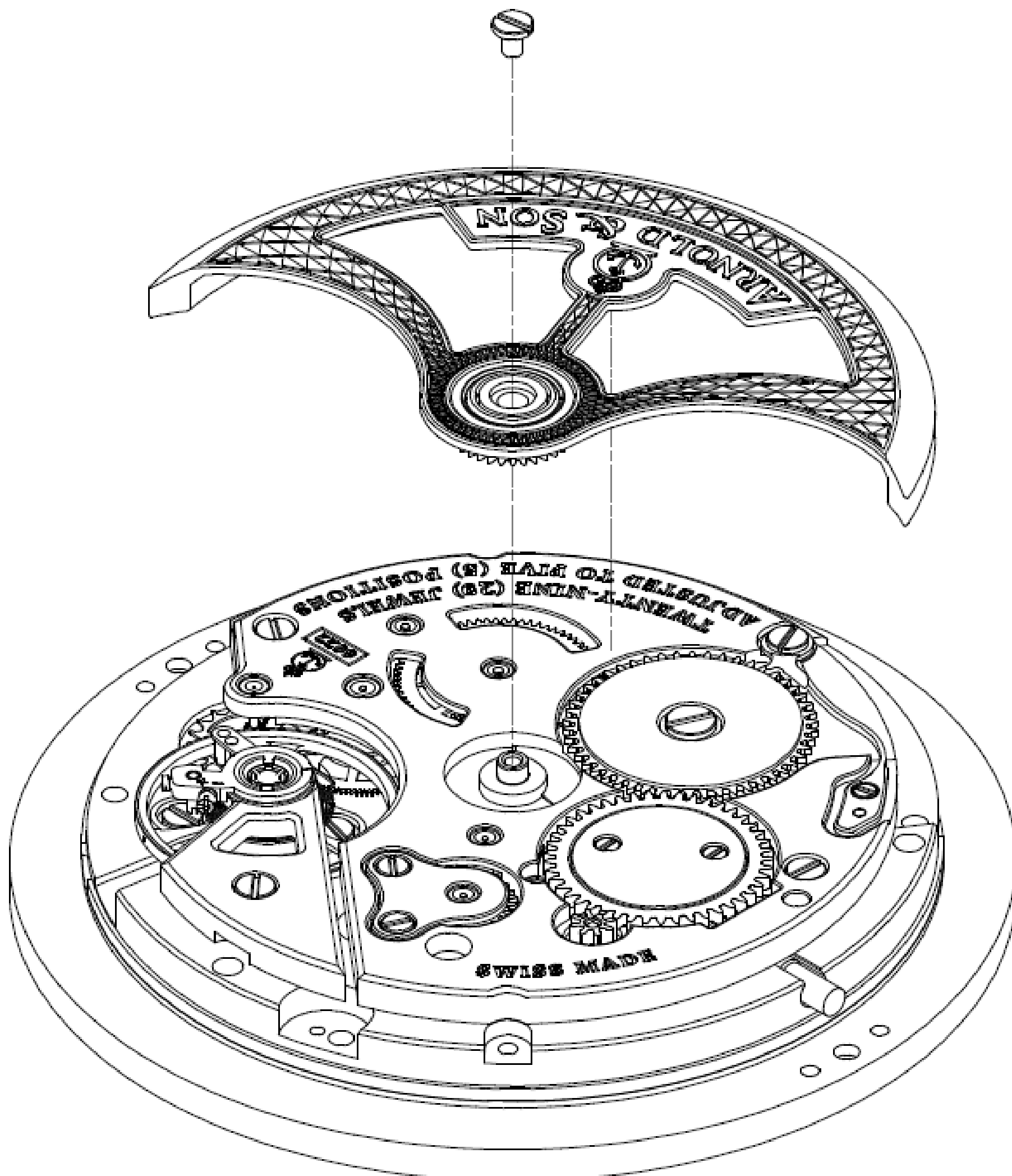
The gears  
for the  
world time  
mechanism  
with out  
the dial  
supporting  
plate.



The two sides of the friction clutch which drive the hands and the hemisphere and allow them to be adjusted in setting position. It is a push fit directly on the the extended pivot of the 2nd wheel of the going train following the barrel.







The rotor is chemical etched with a hobnail motif and finished with a black ADLC.





The Geneva stripes are radially cut from the centre of the watch plates.

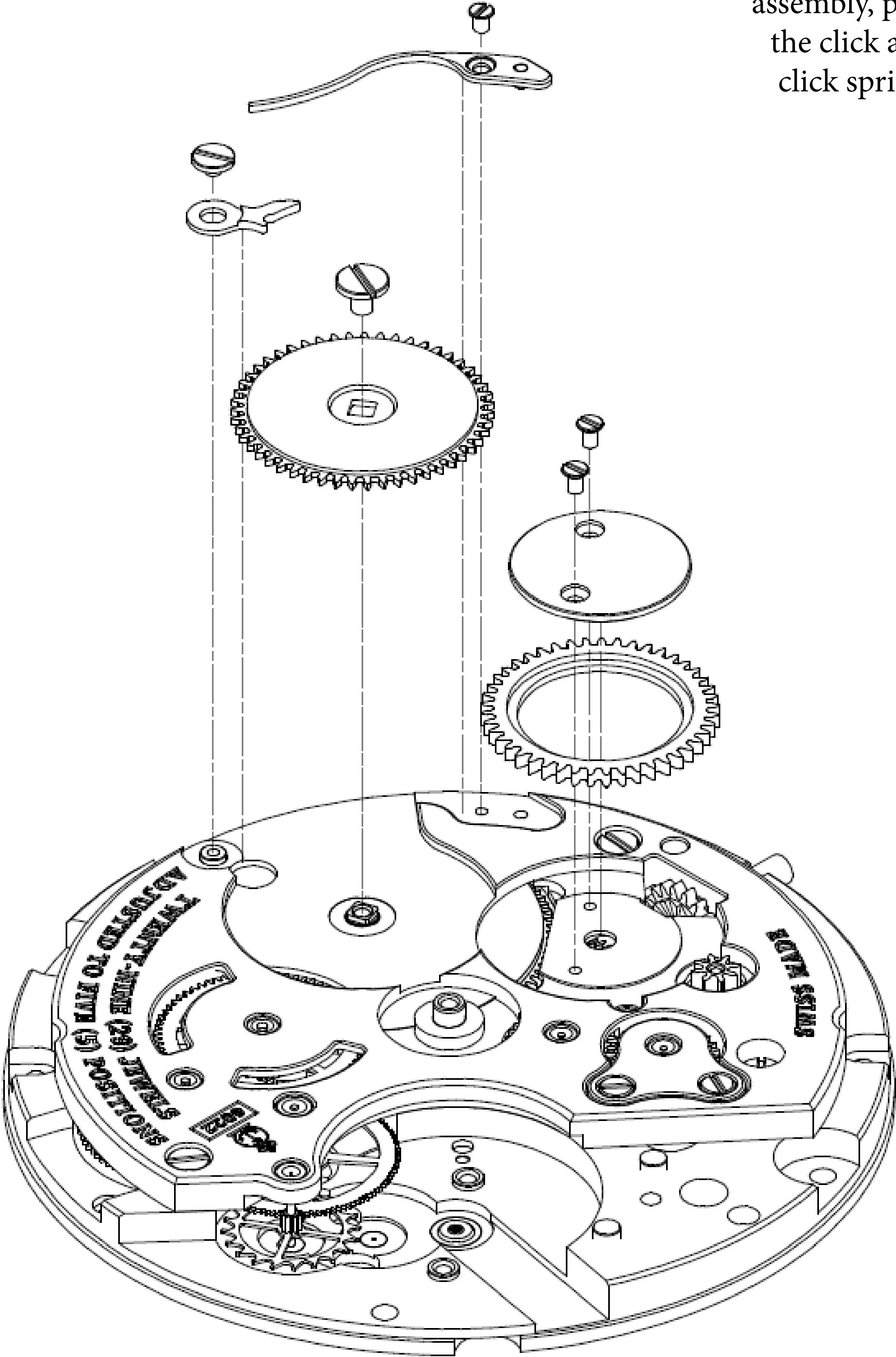


The ratchet wheel  
lying above the upper  
crown wheel.

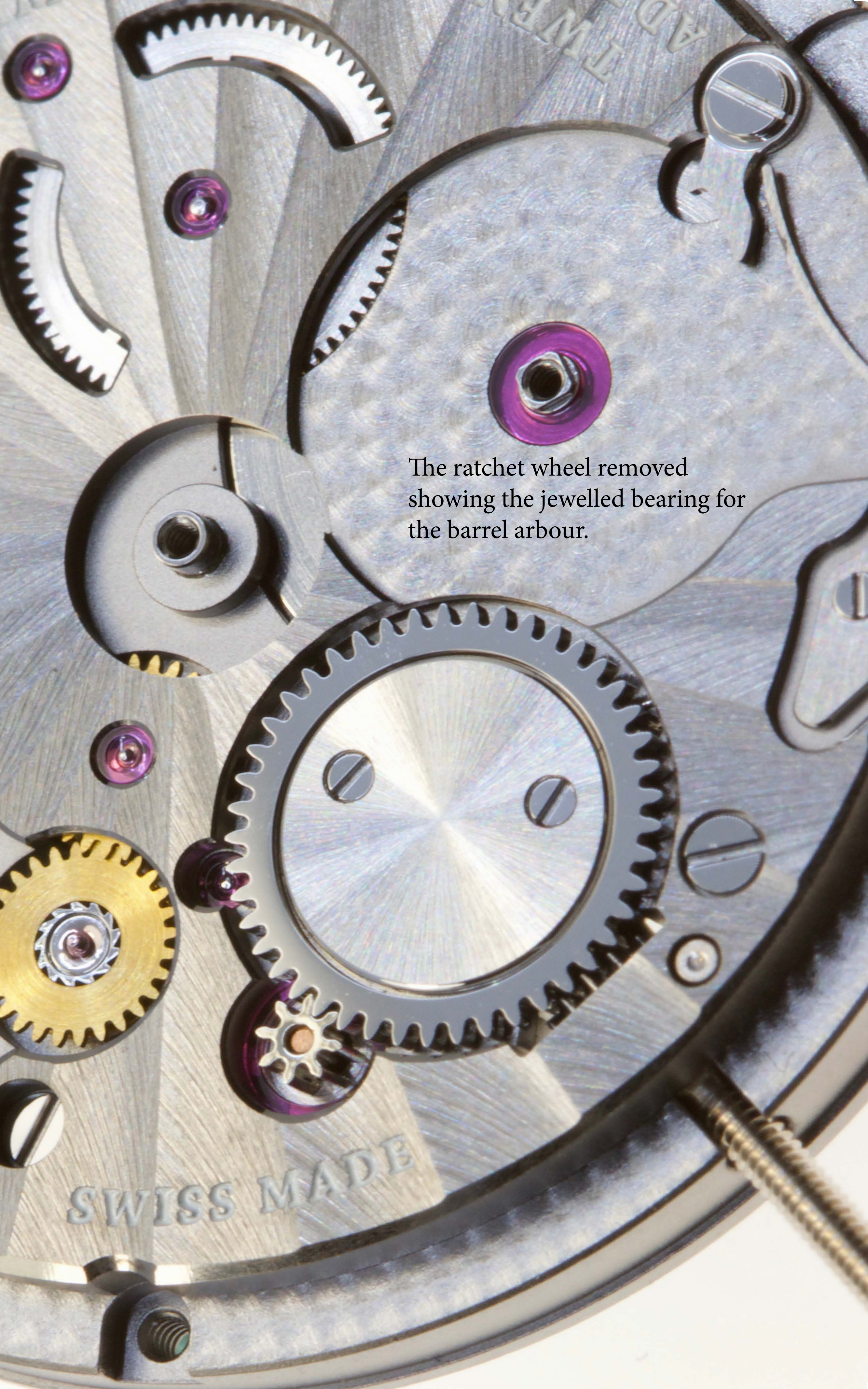




The exploded upper crown wheel and ratchet wheel assembly, plus the click and click spring.







The ratchet wheel removed showing the jewelled bearing for the barrel arbour.

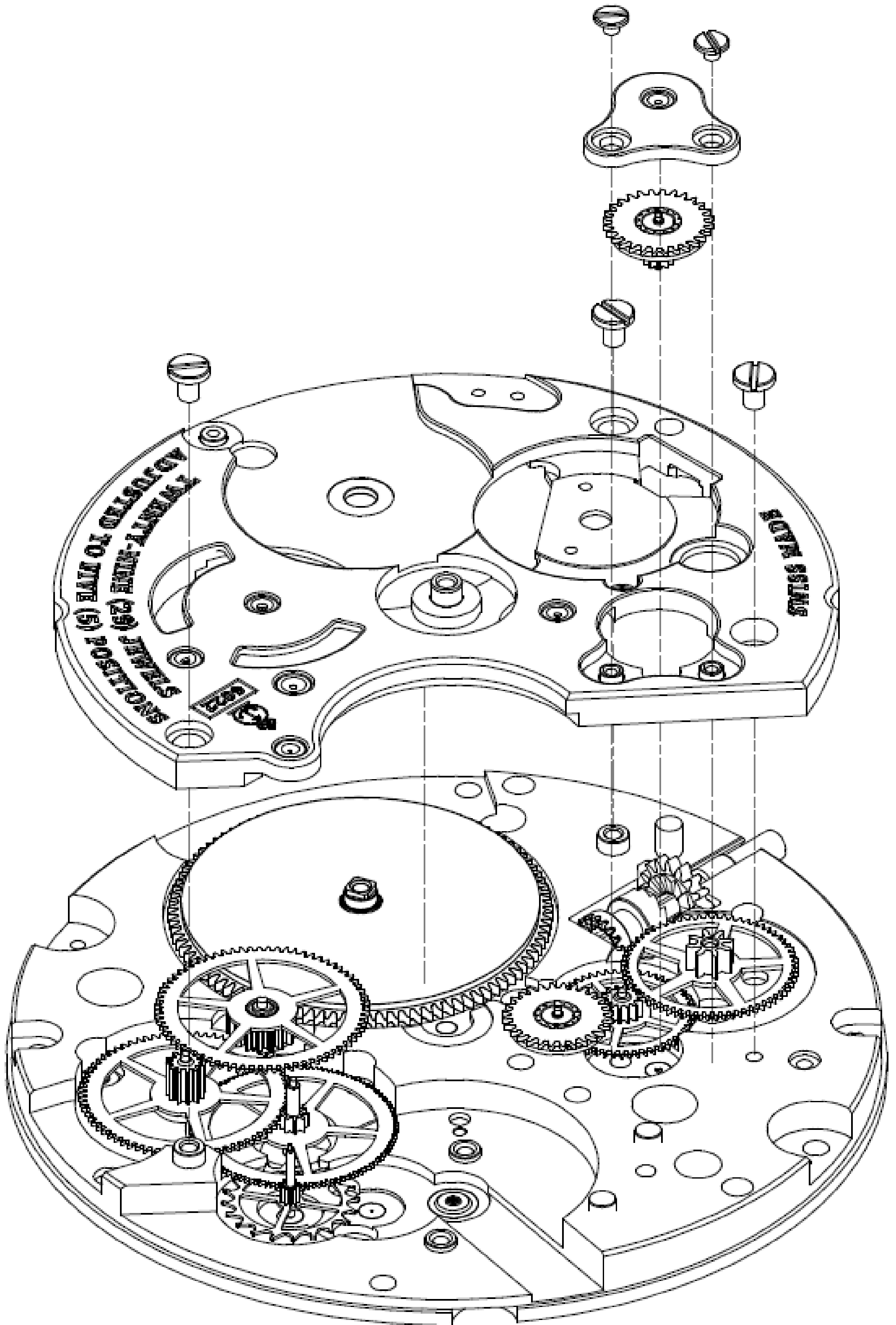


The partially  
viewed automatic  
train with one of  
the reverser wheels  
removed.

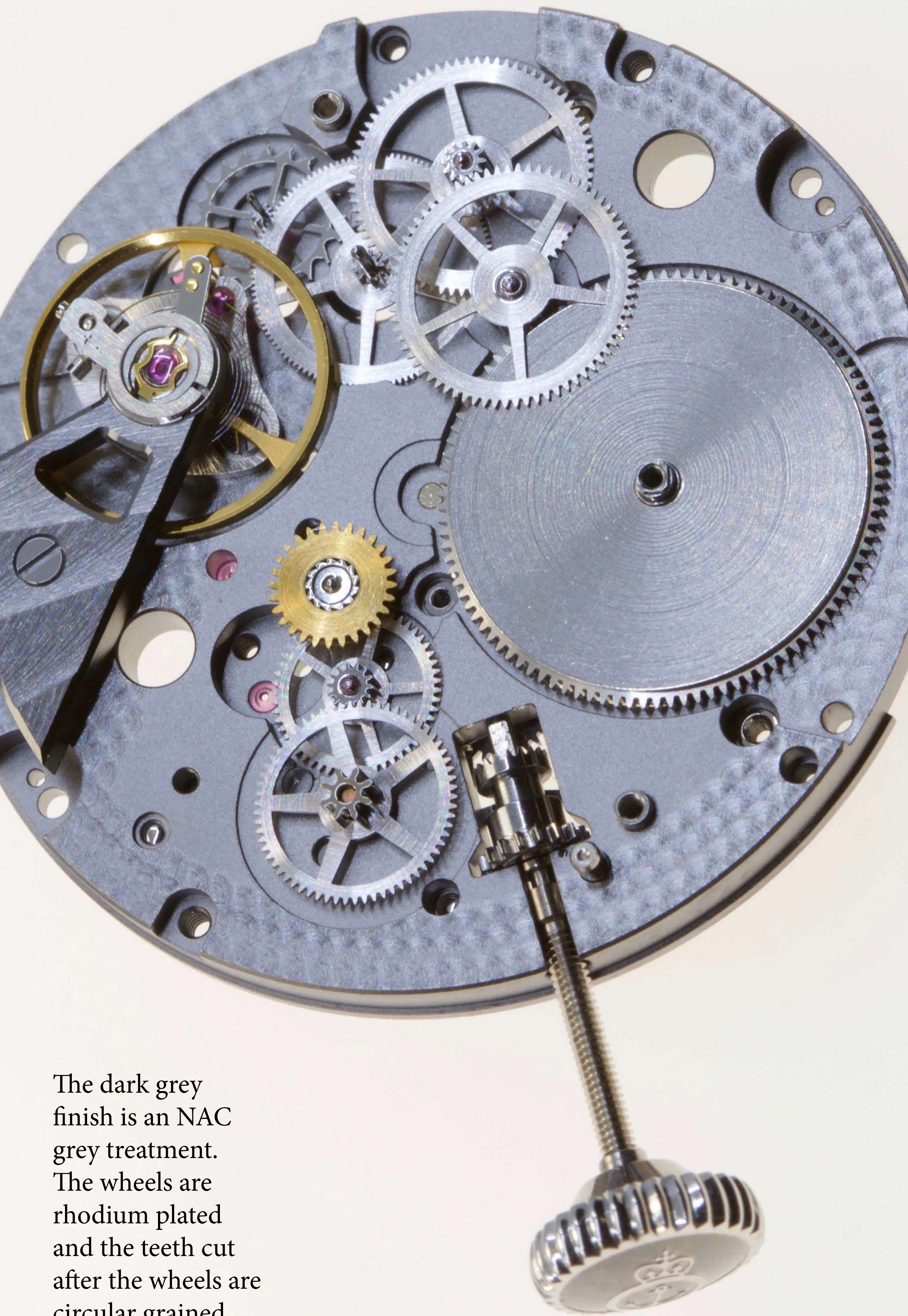




The main train bridge lifted. Above, the 2nd automatic reverser wheel, below the two trains.  
To the left the going train, to the right the automatic train.







The dark grey finish is an NAC grey treatment. The wheels are rhodium plated and the teeth cut after the wheels are circular grained and plated.

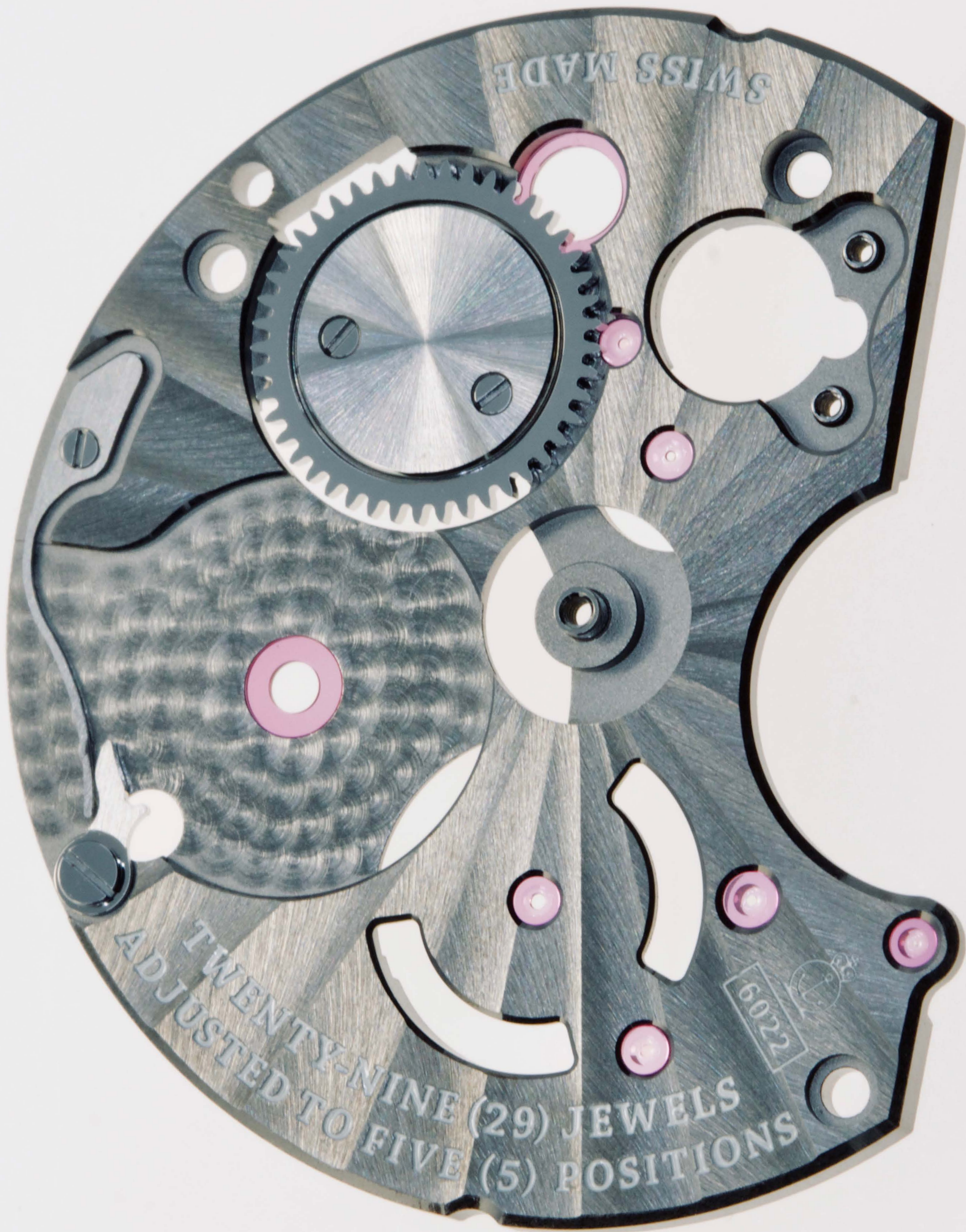




From top to bottom:  
The balance wheel,  
escapewheel,  
4th wheel,  
3rd wheel,  
2nd wheel.

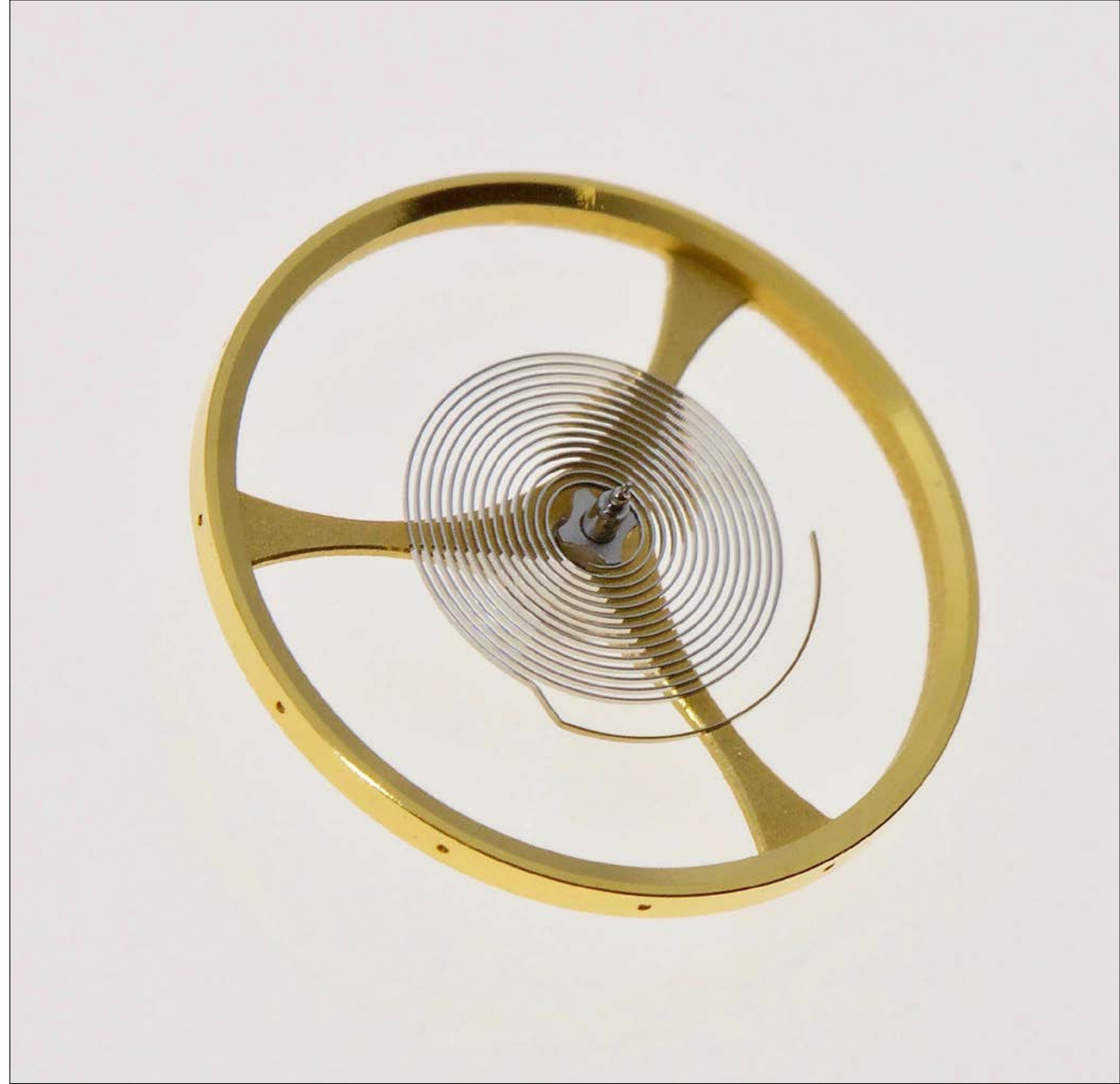
The 2nd wheel is often the  
centre wheel and turns  
once per hour.



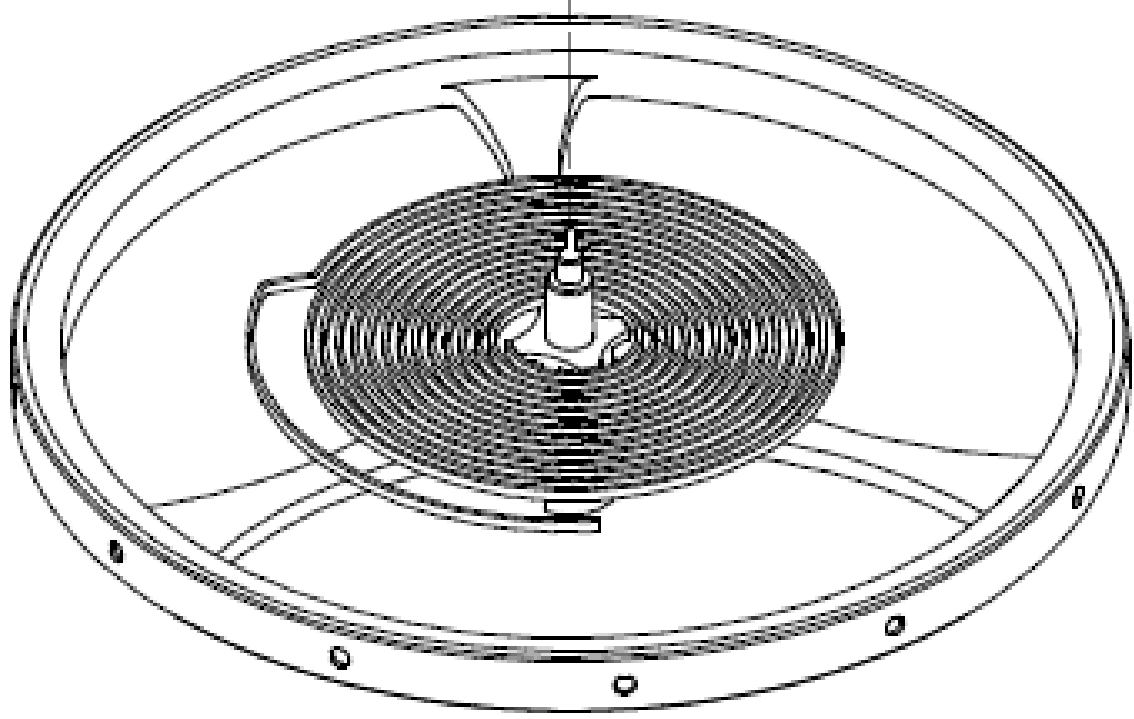
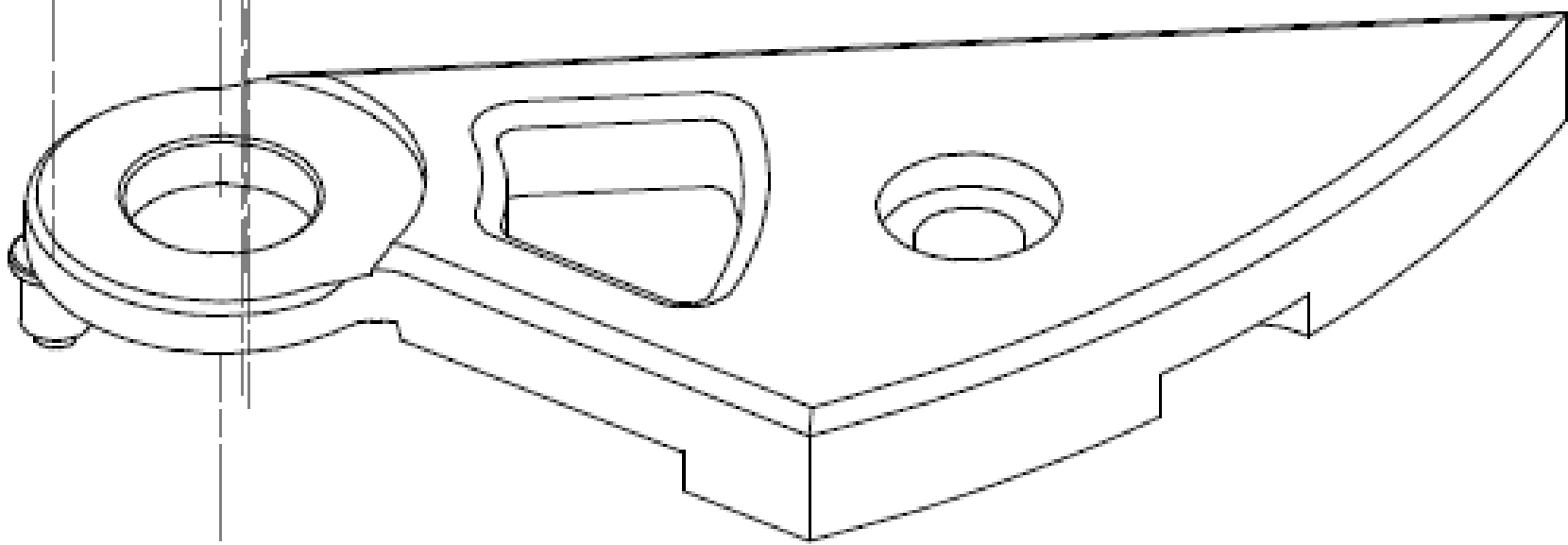
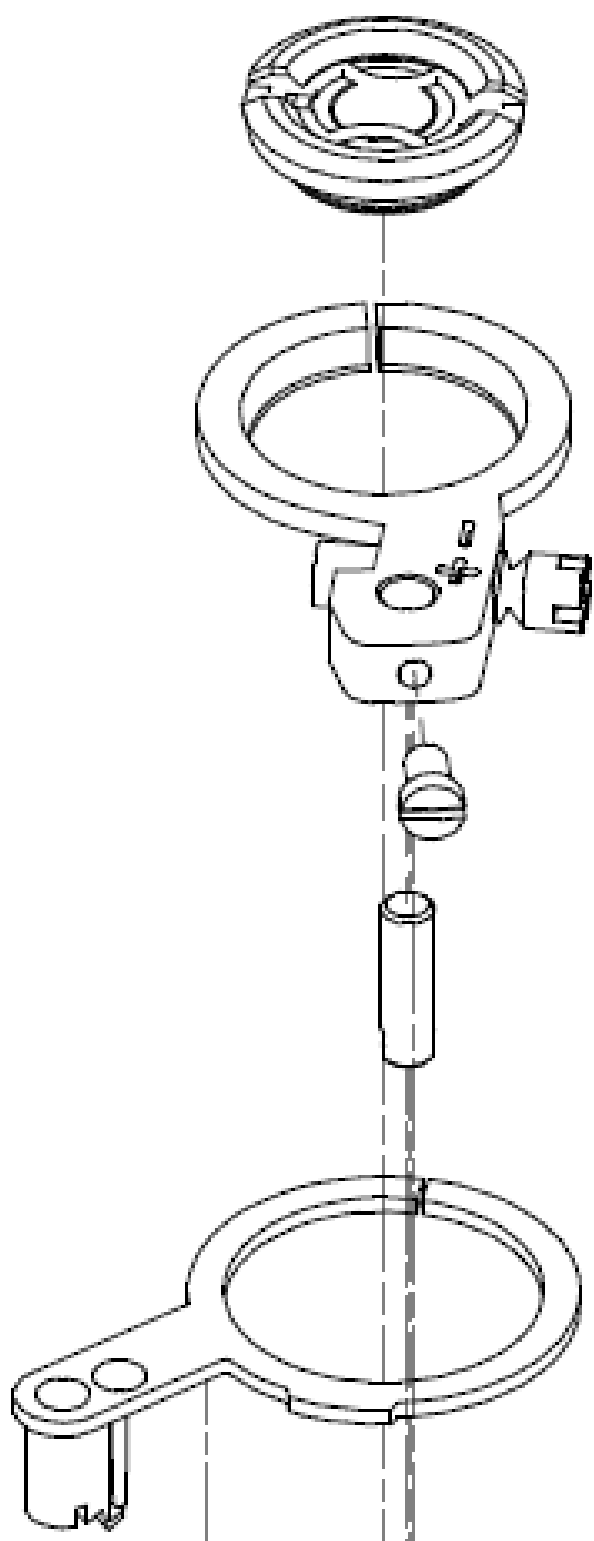


The three-quarter bridge covering the two trains, (automatic and going). Similar in form to early English pocket watches. The 29 jewels are the red synthetic rubies that all pivots rotate in. The 5 positions, are those the watch is regulated in, and tested are dial up and down, plus the 3 most common vertical positions.

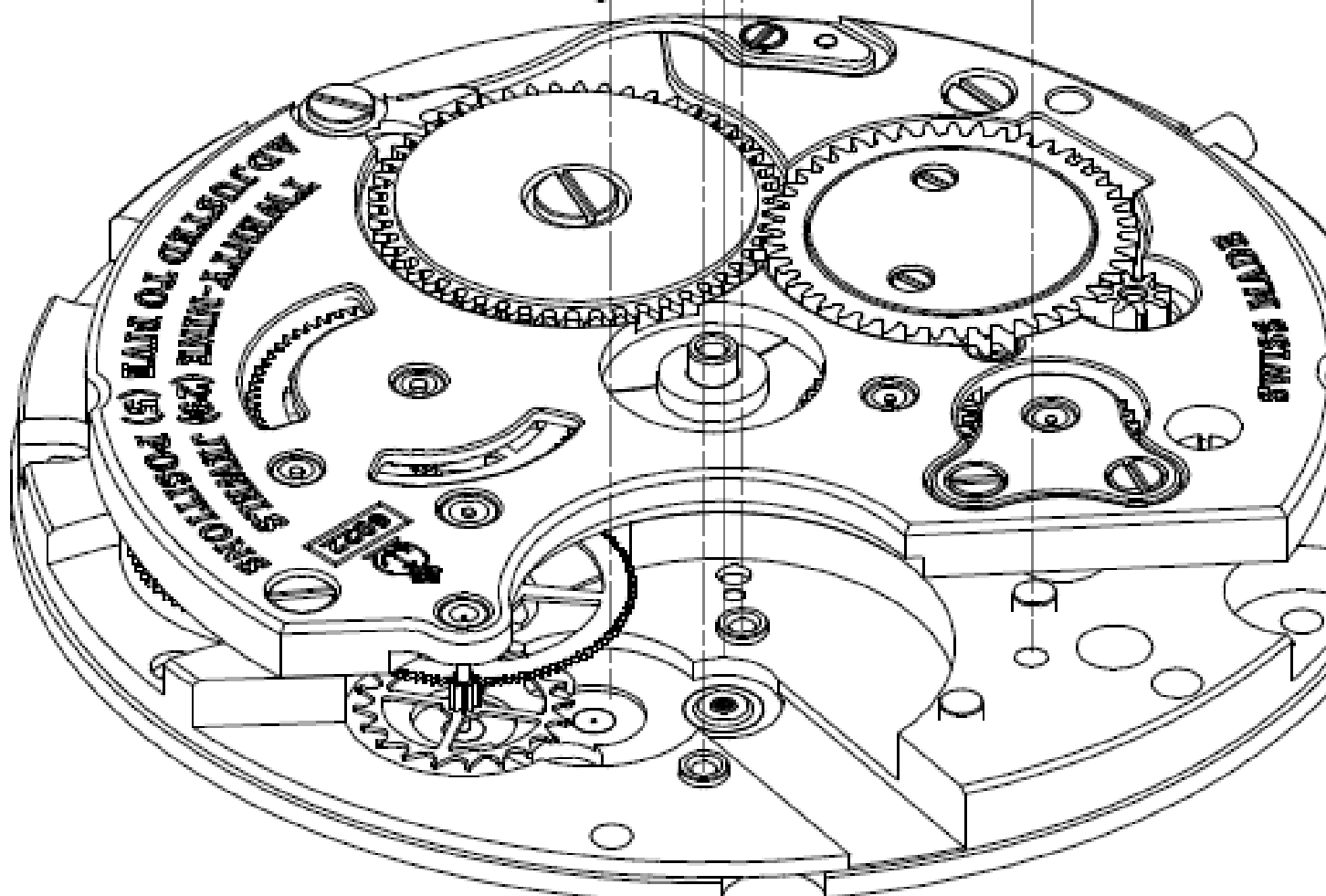
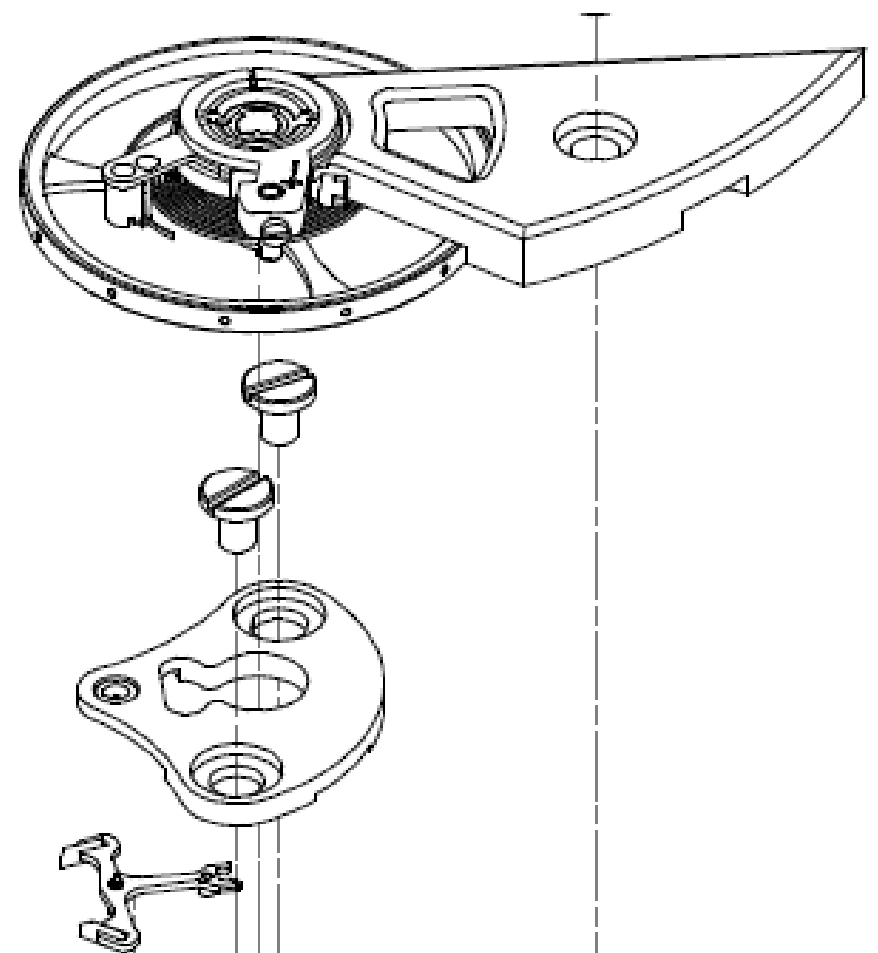




The balance wheel and spring before the balance spring holding stud is added.



The full balance wheel assembly.







The surfaces that are visible are spotted (pearlage). The functional surfaces, those that the bridges and cocks sit on are left un-decorated to assure they remain perfectly flat.



The empty case.





Making a simple watch complicated, is simple. Making a complicated watch simple, is far more challenging and this watch is representative of such an approach. The result is a well-thought-out world time watch with an intuitive and highly visual system to locate the hour around the world.





[www.thenakedwatchmaker.com](http://www.thenakedwatchmaker.com)